

# Avalara Commerce Monitor

Impacts of COVID-19 one year later

## Avalara Commerce Monitor

Impacts of COVID-19 one year later

### Introduction

**Welcome to the second edition of the Avalara Commerce Monitor — analysis from the Avalara index tracking system that monitors segments of the United States economy.**

On March 13, 2020, the U.S. declared the COVID-19 pandemic a national emergency. At the same time, grocery stores flooded with people stocking up amid the unknown as the virus spread across the country.

In the months following, industries and businesses of all types and sizes reckoned with changes to business operations, changes in consumer habits, and impacts on the supply chain. For example, according to [McKinsey](#), early in the pandemic many manufacturers saw a drastic increase in demand for toilet paper for use at home, while demand dropped abruptly for commercial toilet paper products .

We also saw changes happen later in the year as the holiday season approached. As COVID-19 cases continued to fluctuate, consumers, manufacturers, and retailers prepared for a holiday season that looked a lot different and would take place online. Widespread concerns over shipping led many to warn of “shipageddon” as packages were likely to be significantly delayed.

All in all, as we look back over the past year, we find that a lot has changed about the way we all live, work, socialize, and buy. The pandemic has thrust digital alternatives across the manufacturing, retail, and services industries into the spotlight and forever changed how consumers and businesses think about commerce.

This edition of the Avalara Commerce Monitor uncovers the biggest pandemic-influenced trends in our transaction data from March 2020 to February 2021 across the following industry verticals:



**Manufacturing**



**Retail**



**Services**

This report spotlights a group of small online businesses (0–19 employees) to compare their performance over the past year with overall trends for small businesses in the U.S.

### Definitions

#### Indices



Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



mechanical, physical, or chemical transformation of materials, substances, or components into new products. Examples include medical equipment manufacturing, sign manufacturing, pharmaceuticals, plastics, and commercial machinery.



The **Avalara Commerce Monitor Retail Index** includes businesses that engage in retailing merchandise. Examples include electronics, home furnishing/furniture, sporting and recreational goods, clothing, office supplies, cosmetics, jewelry, office equipment, and grocery.



The **Avalara Commerce Monitor Services Index** includes businesses that provide services to their customers and no physical goods are transferred from the seller to the buyer. Examples include advertising, computer programming/systems design, administrative management, scientific and technical consulting, and interior design.

## Terminology

The following company performance metrics are used in the aggregated data reported by the Avalara Commerce Monitor:



**Items sold:** the total number of items sold for all transactions processed by Avalara for the index cohort



**Total sales:** the sales amount in dollars for all transactions processed by Avalara for the index cohort



**Churn rate:** the percentage of lost customers over a set period of time for the index cohort

## COVID-19 trends

**Businesses have spent most of the past 12 months working to adapt to unprecedented circumstances. Last March, widespread mandated closures and stay-at-home orders changed business operations almost instantaneously. As months passed, businesses and consumers alike began to find a rhythm in the new normal of life during a pandemic.**

People accepted life at home in stride by shifting most of their daily routines to the confines of their living spaces. Everything from work to fitness to shopping had to be done from home — creating a [massive shift in consumer behavior](#) toward a culture that's become predominantly digital-first. As a result, there's now an online component for nearly every facet of our everyday lives — online shopping, telehealth, online fitness, online education, grocery delivery — and the list continues to grow.

The shift in consumer behavior that's taken place over the past year is the type that typically takes years to achieve, which means there were considerable growing pains felt across the manufacturing, retail, and services industries.

The pandemic's forcing function made change happen fast. There were no alternatives — contactless shopping and transitioning to online happened practically overnight just to keep businesses open. Usually, these types of decisions are made over time with careful planning and transition periods, but adopting ecommerce so fast meant many had to bypass the usual steps in expanding their business and trying new channels.

The impacts of this leapfrog effect on business-to-business (B2B), business-to-consumer (B2C) and marketplace sales also affected supply chains throughout 2020 — initially when consumers bombarded grocery stores to stock up and again in the fall as retailers geared up for the holiday season.

Retailers also had to cope with ongoing changes to in-person capacity limits and in-store closures throughout the year as the number of COVID-19 cases waxed and waned. Many also had to navigate shipping and logistics challenges for the first time as their online operations scaled. Simply put, the only certainty from the past year was continual change.

From ecommerce acceleration to changes in consumer confidence — the Avalara Commerce Monitor uncovered five trends fueled by the pandemic that will continue to impact the economy for the foreseeable future.



**... adopting ecommerce so fast meant to bypass the usual steps in expanding trying new channels.**

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!





Home fitness boom during the pandemic



**+25%**

year-over-year growth in April 2020 from April 2019



Grocery delivery spikes during the pandemic



**+74%**

year-over-year growth in March 2020 from March 2019

# adoption

Perhaps one of the biggest and most impactful trends driven by the pandemic has been the acceleration of ecommerce adoption. When life at home began, the shift to ecommerce immediately followed as mandated closures prevented traditional in-store shopping and safer-at-home orders encouraged more people to stay home.

The rapid shift to ecommerce compressed years of change into months, creating a range of challenges for businesses across manufacturing, retail, and services. At the onset of the pandemic, many businesses had to [shift their entire business model to online-first](#) as quickly as possible.

This ecommerce acceleration created a number of opportunities for some businesses and verticals. Over the past year, we've seen a drastic increase in sales for businesses suited for social distancing and life at home. For instance, analysis of the transaction data of five home fitness businesses shows their sales grew by 25% in April 2020 compared to the same month in 2019 as more people transitioned to working out at home when many gyms were required to close.

Similarly, Avalara found that sales for five grocery delivery businesses grew by 74% in March 2020 compared to the same month in 2019. We also saw a spike in grocery delivery sales as COVID-19 cases spiked in November — up 68% from November 2019.

While it's likely many in-person businesses will continue to rebound as vaccine rollouts continue and when the pandemic eventually subsides, the major takeaway from the past year for all businesses is this: The shift toward ecommerce is here to stay. According to the U.S. Census Bureau, [ecommerce sales amounted to \\$792 billion in 2020, which is equivalent to 14% of total retail sales](#) — increasing from 7.3% of total retail sales in 2015 when in-store shopping reigned supreme.

As we move forward, it's unlikely consumers will revert to pre-pandemic shopping behaviors. Instead, omnichannel commerce will likely experience continued growth as consumers embrace a hybrid approach to shopping that includes both online and offline channels to make purchases.

## 2. Supply chains played catch-up

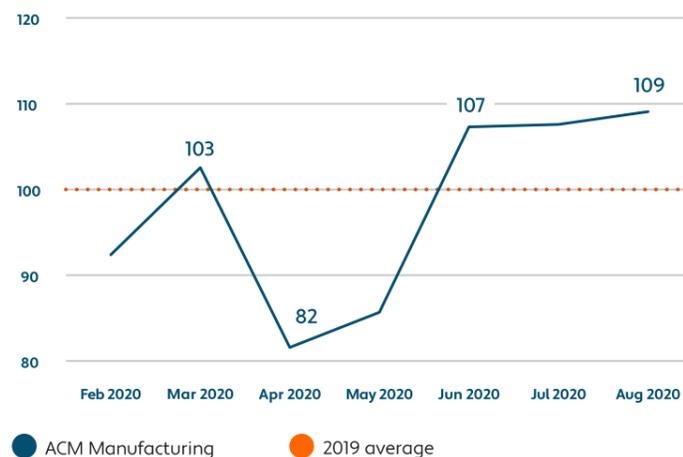
Another outcome of the pandemic-driven change in consumer behavior and ecommerce adoption has been the increased burden placed on supply chains. While the full impact on supply chains is likely yet to be seen, manufacturers faced several unique challenges as the pandemic has progressed.

At the beginning of 2020, experts warned of “supply shocks” due to disruptions to the availability of goods coming out of China as the coronavirus spread across the country. As the pandemic spread to other regions of the world, including the U.S., supply chains began to reckon with “demand shocks” as consumers stocked up on staple items. From there, we witnessed a series of aftershock impacts on supply chains as COVID-19 cases rose in certain regions or demand increased for specific items.

The Avalara Manufacturing Index monitored these impacts, including the demand shock felt in March and April. At that time, the Avalara Manufacturing Index dropped more than 20 points between March and April 2020 as supplies were wiped out.

Fortunately, as consumers settled into life at home and restrictions began to ease in early summer, manufacturers were able to ramp up production — leading to a steady climb in the Avalara Manufacturing Index through August.

**MANUFACTURING TOTAL SALES NATIONAL TREND:**  
February 2020 to August 2020



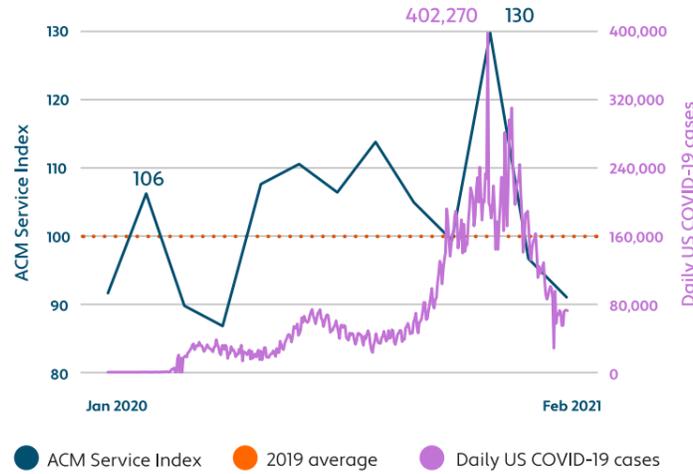
## 3. COVID-19 cases impacted consumer confidence

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



nationwide, retail and services sales saw an associated drop the following month. The Avalara Retail and Services Indices found that for three of the four largest month-over-month increases in COVID-19 cases, a drop-off in total services sales occurred in the following month.

**COVID-19 CASES IMPACT SERVICES SALES:**  
January 2020 to February 2021



Source: United States; [World Health Organization](#); [U.S. Department of Commerce](#); [January 22, 2020 to February 28, 2021](#).

It's clear consumer confidence has been shattered over the past year and the tumultuous nature of COVID-19 cases across the country continues to batter confidence levels. When comparing the Avalara Retail Index to the Consumer Confidence Index, total retail sales mapped closely with changes in consumer confidence levels.

Looking closely at the Avalara Retail Index and the Consumer Confidence Index, we find several similarities throughout the year. At the onset of the pandemic, consumer confidence levels and total retail sales tanked in April before beginning to rebound.

Following the initial shock, we found that total retail sales tended to decrease following a drop in consumer confidence. For example, consumer confidence dropped significantly in August and was followed by a drop in total retail sales in September.

We also found that as retailers and consumers prepared for the holiday season, the Avalara Retail Index saw total retail sales increase in October, while consumer confidence also remained relatively high.

**RETAIL TOTAL SALES VS. CONSUMER CONFIDENCE INDEX:**  
March 2020 to February 2021



Source: [The Conference Board](#); [Consumer Confidence Survey](#); [February 23, 2021](#).

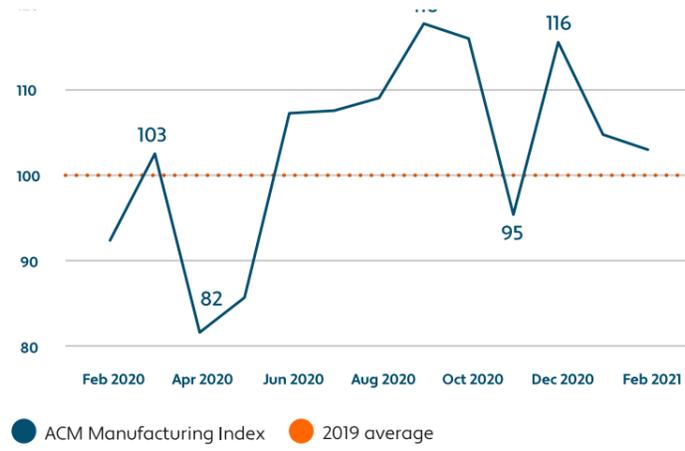
## 4. Cyber Week became Cyber Months

As an extension of the pandemic's impact on consumer behavior, the Avalara Commerce Monitor also tracked major changes to the holiday shopping season. Historically, manufacturing sales increase in October as retailers prepare for the major shopping days during Cyber Week (Thanksgiving through Cyber Monday). However, in 2020, those big retail spending days looked different as the pandemic both forced and prompted changes for retailers and consumers alike.

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



**MANUFACTURING TOTAL SALES NATIONAL TREND:**  
February 2020 to February 2021



The change to the holiday season began early in the fall as many retail supply chains were put to the test in preparation for extraordinary ecommerce demands during the holidays. The Avalara Manufacturing Index hit its year-to-date high in September — up 18% from the 2019 baseline. The spike in manufacturing sales in September signaled an earlier-than-usual start to the holiday season.

Following suit, the Avalara Retail Index showed a spike in total retail sales in October followed by a sharp decline in sales in November. The increase in October was likely the result of many strategies retailers employed to encourage customers to shop online, while also mitigating the impact on supply chains.

In preparation for the holidays, most major retailers [began online holiday sales as early as mid-October](#) after Amazon postponed Prime Day from its usual summer slot to October and retailers worried about shipping delays closer to Christmas. Retailers spread out “doorbuster” [deals over a longer period of time](#) and offer fewer major sales to ease supply chain tensions.

**RETAIL TOTAL SALES NATIONAL TREND:**  
February 2020 to February 2021



Due to the combination of supply chain concerns and the ongoing reliance on ecommerce throughout the year, the usual jump in retail sales in November was spread out over the course of months instead of weeks. Because the 2020 holiday season was made longer, we were able to see the [Cassandra Curse](#) unfold.

Ahead of the holiday season, experts warned that more online sales during the rush of [the holiday season could put significant pressure on ecommerce platforms and supply chains](#) — leading to delays in shipments throughout the holidays. Because manufacturers, retailers, and distributors planned ahead for the forewarned disruption, the actual impact throughout the season was minimal compared to what was predicted, which led some to call out that [the holiday season was not as much of a concern](#) as originally thought.

**“Because manufacturers, retailers, and distributors planned ahead ... the holiday season was not as much of a concern as originally thought.”**

## 5. Sales tax collections helped bolster state revenues

Over the past year, state revenues have been on a roller-coaster ride of ups and downs. To raise revenues, states rely on a range of taxes like sales taxes, income taxes, property taxes, and more. When shutdown orders went into effect last March, most state tax collections took a nosedive, which [prompted many states to issue dire outlooks on revenue](#).

However, according to [data from the Urban-Brookings Tax Policy Center](#), the change in state tax revenue wasn’t as bad as initially forecast for some states.



The Avalara Manufacturing Index hits its year-to-d

**+18%**

growth in September 2020 from September 2019



Idaho

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!

those with the highest sales and use tax remittance. Idaho saw the highest increase in state tax revenue at 10.4% and was among the top states for growth in sales and use tax remittance at 44%.

For many states that saw an increase in overall tax revenue, there was an associated increase in sales and use tax collections.

**+10.4%**

increase in state tax revenue

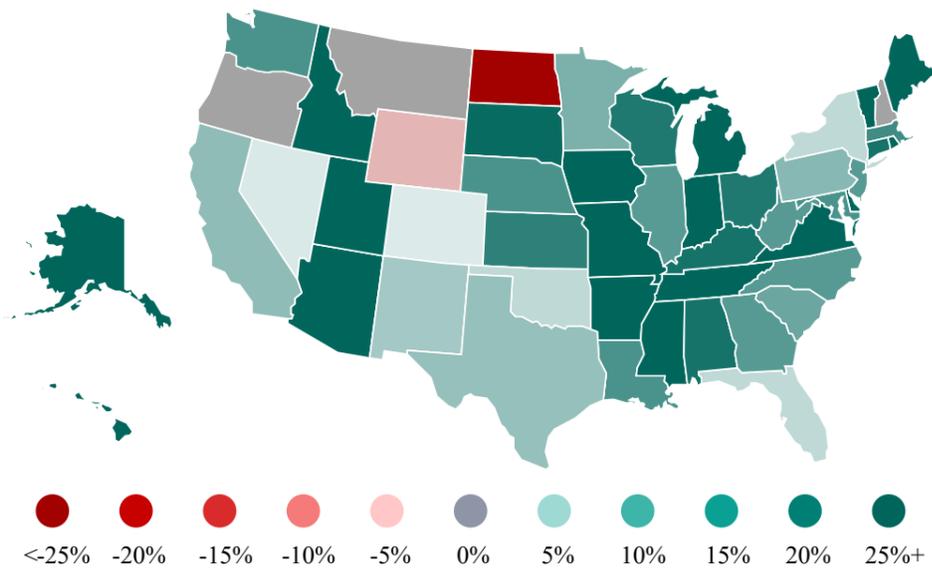
**+44%**

growth in sales and use tax remittance

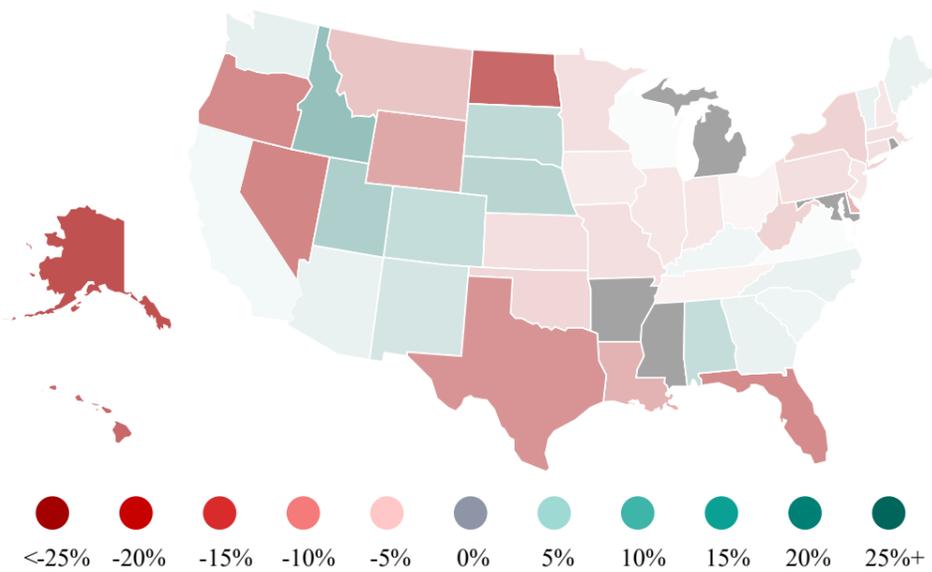
### GROWTH IN SALES AND USE TAX REMITTED BY AVALARA

States that do not have state sales tax:

- Alaska
- Delaware
- Montana
- New Hampshire
- Oregon



### URBAN-BROOKINGS GROWTH IN STATE REVENUE



## COVID-19 case study — Small online businesses

While nearly every industry and business has been impacted by the pandemic in some way over the past year, we wanted to conduct a case study on one slice of the economy. We took a close look at a cohort of small, online retailers — a segment of the economy that’s been overwhelmingly impacted by the pandemic. The cohort included online retailers in the outdoor and sports equipment, household goods, and wellness industries.

To develop this case study, we selected 10 small retailers (fewer than 20 employees) with a predominantly online presence and tracked their total sales and items sold from January 2019 through February 2021. Values in the graph are indexed based on the month’s true value in comparison to the maximum value of all months. For example, the index value of total sales in January 2021 is equal to the real value of total sales in January 2021/real value of total sales in May 2020 (because it had the highest total amount monthly value). Total sales are evenly distributed among different businesses, and thus the trend line is representative of the majority of businesses in the cohort, rather than one or two businesses.

According to the [MetLife & U.S. Chamber of Commerce Small Business Index](#), in Q4 2020, half of small businesses reported that they anticipate operating for a year or less in the current business climate before having to permanently close. This data came as COVID-19 cases hit



Half of small businesses ... anticipate operating for a year or less in the current business climate before having to permanently close.



Businesses saw the largest year-over-year increase in sales during Small Business Saturday.

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!

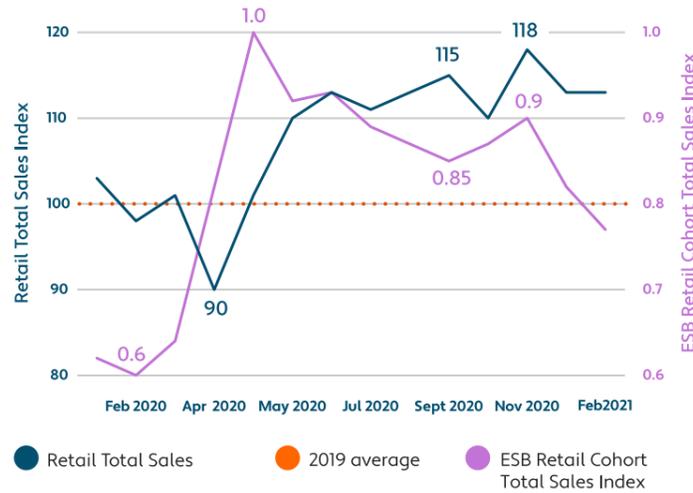
When we look at the case study cohort, we can see where they have been heavily impacted by the pandemic and where they've bounced back throughout the year.

Interestingly, despite [one in five small businesses being closed at the beginning of June](#), the small online retailers in our case study cohort bounced back after the initial onset of the pandemic faster than the overall retail sector. The cohort saw growth of 35% in total sales between March and June. This growth points to the importance and adoption of ecommerce early on in the pandemic.

According to Adobe Analytics, [small retailers saw an average 110% increase in online sales during Black Friday weekend](#). Similarly, although the Avalara Retail Index found that total retail sales dipped in November following a busier than usual October, our case study cohort saw steady growth in total sales throughout the holiday season from October through December. Likewise, during Cyber Week, businesses saw [the largest year-over-year increase in sales volume take place on Small Business Saturday](#) — further validating the success online small businesses had during the holiday season.

In line with the rest of the Avalara Retail Index, the case study cohort experienced a steady decline in total sales following the holidays and the record number COVID-19 cases in December. Still, total sales in the cohort remain above early pandemic levels as consumer confidence continues to balance out and the vaccine rollout continues.

**TOTAL RETAIL SALES VS. ESB COHORT TOTAL SALES:**  
January 2020 to February 2021



**“... the small online retailers in our case study cohort bounced back after the initial onset of the pandemic faster than the overall retail sector.”**

## Methodology

### Who is included in the Avalara Commerce Monitor?

The Avalara Commerce Monitor report is intended to be an indicator of U.S. economic activity across the manufacturing, retail, and services industries. The Avalara Commerce Monitor does not provide insights or forward-looking predictions with respect to Avalara's revenue growth. Each index within the Avalara Commerce Monitor comprises a set of 400 Avalara customers.

Construction of the index began by identifying three groups of 400 Avalara AvaTax accounts to represent the three industries tracked by the Avalara Commerce Monitor: manufacturing, services, and retail. Criteria for which Avalara accounts to include in these cohorts were based on two priorities: data quality and optimizing the index to be representative of the U.S. economy.

The first criterion was that included accounts needed to be active users of AvaTax in all reported periods. The goal here was to ensure that index trends were driven by transaction growth and not by subscription adjustments (new onboardings, cancellations, etc.). This list started with all accounts that have had an active AvaTax subscription every month since January 2019. To make sure all of those subscriptions were fully live on the product, the list was then whittled down to users whose usage was within two standard deviations across all months in 2019.

After segmenting the still eligible accounts by industry, the remaining criteria focused on creating cohorts representative of the U.S. economy on two aspects: 1) sales generated by companies in each region, and 2) the number of businesses by company size (market segment). While the distribution of Avalara customers does not align perfectly with U.S. distribution (e.g., Avalara customers over-index on SMBs), accounts were selected to mimic U.S. distribution as closely as possible.

### Account segmentation summary



#### Manufacturing cohort

Number of businesses by company size

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



Northeast	<b>20%</b>	20%
Midwest	<b>27%</b>	27%
South	<b>31%</b>	30%
West	<b>22%</b>	23%

Amount generated by companies in each region

Segment	Avalara distribution	U.S. distribution
ESB <20	<b>7%</b>	12%
SMB 20-500	<b>27%</b>	24%
UMM + Enterprise 500+	<b>65%</b>	64%



### Retail cohort

Number of businesses by company size

Region	Avalara distribution	U.S. distribution
Northeast	<b>27%</b>	24%
Midwest	<b>21%</b>	20%
South	<b>29%</b>	36%
West	<b>23%</b>	20%

Amount generated by companies in each region

Segment	Avalara distribution	U.S. distribution
ESB <20	<b>13%</b>	12%
SMB 20-500	<b>27%</b>	24%
UMM + Enterprise 500+	<b>60%</b>	64%



### Services cohort

Number of businesses by company size

Region	Avalara distribution	U.S. distribution
Northeast	<b>21%</b>	23%
Midwest	<b>24%</b>	20%
South	<b>31%</b>	35%
West	<b>24%</b>	22%

Amount generated by companies in each region

Segment	Avalara distribution	U.S. distribution
---------	----------------------	-------------------

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



SMB 20-500	44%	41%
UMM + Enterprise 500+	66%	64%

Moving forward, accounts will only be removed from the index if their AvaTax subscription is canceled. In case of churn, the account would be replaced from an already established pool of eligible accounts not already included in the index.

AvaTax, Avalara’s automated tax calculation system, processes billions of transactions every year. The Avalara Commerce Monitor converts that data into anonymized indices to track the changes in commerce in the United States. The Monitor includes indices for each of three major industry segments: manufacturing, services, and retail. The growth of these segments is measured through two metrics: the quantity of items sold and total sales value.

Following the lead of established reports such as the Consumer Price Index (CPI), the Avalara Commerce Monitor uses indexing as a tool for representing growth over time. The CPI measures currency inflation by following the price of a “basket” of consumer goods. To measure that change, the current price of that basket is compared to how much it would have cost during a “base period,” [currently set as the baseline price of those goods from 1984–86](#). Similarly, the Monitor measures changes in U.S. commerce by comparing recent transaction data with monthly averages from 2019. To simplify the output of that comparison to focus on growth, both the CPI and the Monitor are multiplied by a base value of 100.

**Calculation Example:**

June 2020

Cost of basket in June 2020			That month’s index score
Average cost of basket 1984-86	$\times 100 =$		
Total sales in June 2020			That month’s index score
2019 monthly average	$\times 100 =$		

**Calculation Example:**

June 2020

Cost of basket in June 2020			That month’s index score
Average cost of basket 1984-86	$\times 100 =$		
Total sales in June 2020			That month’s index score
2019 monthly average	$\times 100 =$		

For May 2020, the Manufacturing Index has an items sold index score of 83, showing its growth relative to prior periods. Since 100 represents the monthly baseline of 2019 transaction data, we can say that for the services industry, 17% fewer items were sold compared to the 2019 monthly baseline. When that score rises to 104 in June 2020, we can say that items sold were up 25% for the services industry compared to May’s score of 83.

## Index methodology details



### Baseline

Baseline performance is calculated using 2019 data. Since the update cadence is monthly, the baseline for each metric is the average monthly sum of that metric in 2019. For example, for the retail cohort, the total sales baseline would be the average of the 12 monthly sums of total sales.



### Outlier management

In order to remove noise, outliers have been removed from all data. For a given month and state (where “ship to” address is located), a metric’s daily sum is calculated, and the top 10% and bottom 10% of daily sums removed. Then the rest of the daily sums were added up to become the new monthly sums of that month in that state.

For example, for the retail cohort in June 2020 in the state of California, 30 daily sums of items sold were calculated, and the top 10% and bottom 10% of those 30 daily sums were then removed, with the sum of the rest of the daily sums to be the new monthly sum of items sold in California in June 2020 for the retail cohort. This outlier removal process is done for

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



This method inevitably brings down the true monthly sums for all metrics, but since the interest here is the change[3] between different months, rather than the real number, the index still properly represents the fluctuations of all metrics.



## 2020 calculation

The index value for 2020 shows a comparison between the given month in 2020 and the baseline performance of 2019, for the given metric.

Take the West region for the retail cohort for example. **2020 June's monthly index for items sold is:**

$$\frac{\text{2020 June monthly sum of items sold}}{\text{2019 items sold monthly average}} \times 100$$

## Keep exploring



### Avalara Commerce Monitor

October 2020 — The first edition of the Avalara Commerce Monitor — analysis from the Avalara index tracking system that monitors segments of the United States economy.

[October 2020 Commerce Monitor →](#)



### Avalara Blog

Avalara serves businesses across the U.S. and around the world. Additional insights like this can be found on our blog.

[Visit the blog →](#)



### COVID-19 tax info hub for business recovery

Get the latest news and insight to help you navigate an economy in flux.

[Covid-19 tax hub →](#)

## About Avalara

Avalara helps businesses of all sizes get tax compliance right. In partnership with leading ERP, accounting, ecommerce, and other financial management system providers, Avalara delivers cloud-based compliance solutions for various transaction taxes, including sales and use, VAT, GST, excise, communications, lodging, and other indirect tax types. Headquartered in Seattle, Avalara has offices across the U.S. and around the world in Brazil, Europe, and India.

[Why Automate](#)

[Why Avalara](#)

[Our Platform](#)

### ABOUT

- [Why Avalara](#)
- [Why automate](#)
- [Streamlined Sales Tax Program](#)
- [Customer stories](#)
- [Avalara leadership](#)
- [Avalara careers](#)
- [Become a partner](#)
- [Become a developer](#)

### PRODUCTS & SERVICES

- [AvaTax](#)
- [Returns](#)
- [CertCapture](#)
- [All products](#)

### INTEGRATIONS

- [Magento](#)
- [Microsoft Dynamics](#)
- [NetSuite](#)
- [QuickBooks](#)
- [Sage](#)
- [Shopify Plus](#)
- [Stripe Invoicing](#)
- [Zuora](#)

### CONTACT US

(877) 299-7561  
 Monday–Friday  
 8:00 a.m.–6:00 p.m. PT

Chat with us  
 Monday–Friday  
 4:30 a.m.–4:30 p.m. PT

Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!



[Locations](#)

**RESOURCES**

[Support](#)

[Avalara University](#)

[Help Center](#)

[Whitepapers](#)

[Events](#)

[Webinars](#)

[Videos](#)

[Sales tax calculator](#)

[State sales tax rates](#)

**FOLLOW US**



[United States \(English\)](#)



Hey 👋 looking for ways to reduce the hassle and complexity of tax compliance? We have you covered!

